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Term: L1 same (family adj 45)

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Search History

DATE: Thursday, August 14, 2003 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L3	L1 same (mucor or rhizopus or phycomyces)	9	L3
L2	L1 same (family adj 45)	15	L2
L1	endoglucanase	998	L1

END OF SEARCH HISTORY

L3: Entry 7 of 9 File: USPT Oct 30, 1990

DOCUMENT-IDENTIFIER: US 4966850 A
TITLE: Production of thermostable xylanase and cellulase

Detailed Description Text (57):
To ensure that the tube clearing assay is a true reflection of the abilities of the organisms to produce extracellular hydrolytic enzymes, the fungi were also grown in liquid cultures and analyzed for their enzyme production and secretion in culture filtrates (Table 11). General correlations between the tube assay for estimating the cellulolytic and xylanolytic potential of a particular fungal strain and the actual enzyme production in liquid cultures were obtained. Several strains which showed poor clearing in tubes, such as B499, C491 (Thielavia terrestris), and C416 (Mucor sp.) (Table 10), also exhibited low cellulase or xylanase enzyme activities in their culture filtrates (Table 11). Other strains, such as Thermoascus aurantiacus C412 and 235E. showed good clearing of the substrates in the tube assay (Table 10) and also good enzyme production in liquid medium (Table 11). There were, however, several notable exceptions to the general correlation of the tube assay and enzyme production in liquid medium. Phanerochaete chrysosporium A387, which showed no apparent clearing on xylan and little clearing on cellulosic substrates in solid medium (Table 10), was found to produce high levels of endoglucanase and xylanase activity when grown on Solka Floc in liquid medium (Table 11). On the other hand, P. chrysosporium A435, which demonstrated near complete clearing on all substrates when grown in solid medium (Table 10), was found to produce only very low levels of both cellulase and xylanase enzymes in liquid medium (Table 11). This, however, could be because the medium and culture conditions for the fungi used in the screening studies have not yet been established, thereby preventing optimal production of the desired enzymes. It is apparent, however, that both the tube clearing assay and the liquid culture studies are useful in screening work, and that the choice of one approach over the other will likely depend on the number of cultures to be studied.

L3: Entry 5 of 9 File: USPT May 14, 2002

DOCUMENT-IDENTIFIER: US 6387690 B1
TITLE: Endoglucanases

CLAIMS:

1. An enzyme preparation comprising an endoglucanase or endoglucanase core having a first amino acid sequence of SEQ ID NO:79 and a second amino acid sequence of SEQ ID NO:80 wherein,

(a) in position 3 of the first sequence, the amino acid is Trp, Tyr or Phe;

(b) in position 4 of the first sequence, the amino acid is Trp, Tyr or Phe;

(c) in position 8 of the first sequence, the amino acid is Arg, Lys or His;

(d) in position 9, 10, 12 and 14, respectively, of the first sequence, and in position 4 of the second sequence, the amino acid is any of the 20 naturally occurring amino acid residues, provided that, in the first amino acid sequence, (i) when the amino residue in position 12 is Ser, then the amino acid residue in position 14 is not Ser, and (ii) when the amino residue in position 12 is Gly, then the amino acid residue in position 14 is not Ala,

wherein the endoglucanase is obtained from a strain selected from the group consisting of Crinipellis scapella, Macrophomina phaseolina, Myceliophthora thermophila, Sordaria fimicola, Volutella colletotrichoides, Thielavia terrestris, Acremonium sp., Exidia glandulosa, Fomes fomentarius, Spongipellis sp., Rhizophlyctis rosea, Rhizomucor pusillus, Phycomyces niteus, Chaetostylum fresenii, Diplodia gossypina, Ulospora bilgramii, Saccobolus dilutellus, Penicillium verruculosum, Penicillium chrysogenum, Thermomyces verrucosus, Diaporthe syngenesia, Colletotrichum lagenarium, Nigrospora sp., Xylaria hypoxylon, Nectria pinea, Sordaria macrospora, Thielavia thermophila, Chaetomium mororum, Chaetomium virscens, Chaetomium brasiliensis, Chaetomium cunicolorum, Syspastospora boninensis, Cladorrhinum foecundissimum, Scytalidium thermophila, Gliocladium catenulatum, Fusarium oxysporum ssp. lycopersici, Fusarium oxysporum ssp. passiflora, Fusarium solani, Fusarium anguioides, Fusarium poae, Humicola nigrescens, Humicola grisea, Panaeolus retirugis, Trametes sanguinea, Schizophyllum commune, Trichothecium roseum, Microsphaeropsis sp., Acsobolus stictoideus spej., Poronia punctata, Nodulisporum sp. and Cylindrocarpon sp.

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Search Results - Record(s) 1 through 9 of 9 returned.

☐ 1. Document ID: US 20030115627 A1

L3: Entry 1 of 9 File: PGPB Jun 19, 2003

PGPUB-DOCUMENT-NUMBER: 20030115627
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030115627 A1

TITLE: Coniothyrium minitans beta-(1,3) exoglucanase gene cbeg1

PUBLICATION-DATE: June 19, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Laroche, Andre J.	Lethbridge		CA	
Huang, Timothy Yikai	Lethbridge		CA	
Frick, Michele M.	Lethbridge		CA	
Lu, Zhen-Xiang	Lethbridge		CA	
Huang, Hung Chang	Lethbridge		CA	
Cheng, Kuo Joan	Richmond		CA	

US-CL-CURRENT: 800/279; 435/200, 435/209, 435/325, 536/23.2, 536/23.74, 800/284, 800/288

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 2. Document ID: US 20030051836 A1

L3: Entry 2 of 9 File: PGPB Mar 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030051836
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030051836 A1

TITLE: Enzymatic hydrolysis of a polymer comprising vinyl acetate monomer

PUBLICATION-DATE: March 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Borch, Kim	Birkerod	TN	DK	
Lund, Henrik	Skodsborg		DK	
Sharyo, Masaki	Matsudo-shi		JP	
Sakaguchi, Hiromichi	Chiba city		JP	
Pedersen, Hanne Host	Lyngby		DK	
Fitzhenry, James William	Memphis		US	

US-CL-CURRENT: 162/72; 162/100, 162/189

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

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☐ 3. Document ID: US 6573086 B1

L3: Entry 3 of 9 File: USPT Jun 3, 2003

US-PAT-NO: 6573086
DOCUMENT-IDENTIFIER: US 6573086 B1

TITLE: Transformation system in the field of filamentous fungal hosts

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☑ 4. Document ID: US 6562340 B1

L3: Entry 4 of 9 File: USPT May 13, 2003

US-PAT-NO: 6562340
DOCUMENT-IDENTIFIER: US 6562340 B1

TITLE: Enzyme feed additive and animal feed including it

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☑ 5. Document ID: US 6387690 B1

L3: Entry 5 of 9 File: USPT May 14, 2002

US-PAT-NO: 6387690
DOCUMENT-IDENTIFIER: US 6387690 B1

TITLE: Endoglucanases

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☑ 6. Document ID: US 6146428 A

L3: Entry 6 of 9 File: USPT Nov 14, 2000

US-PAT-NO: 6146428
DOCUMENT-IDENTIFIER: US 6146428 A

TITLE: Enzymatic treatment of denim

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☑ 7. Document ID: US 4966850 A

L3: Entry 7 of 9 File: USPT Oct 30, 1990

US-PAT-NO: 4966850
DOCUMENT-IDENTIFIER: US 4966850 A

TITLE: Production of thermostable xylanase and cellulase

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 8. Document ID: US 4409329 A

L3: Entry 8 of 9 File: USPT Oct 11, 1983

US-PAT-NO: 4409329
DOCUMENT-IDENTIFIER: US 4409329 A
**** See image for Certificate of Correction ****

TITLE: Saccharification method

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 9. Document ID: US 4220721 A

L3: Entry 9 of 9 File: USPT Sep 2, 1980

US-PAT-NO: 4220721
DOCUMENT-IDENTIFIER: US 4220721 A

TITLE: Method for enzyme reutilization

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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Terms	Documents
L1 same (mucor or rhizopus or phycomyces)	9

Display Format: - Change Format

Previous Page Next Page

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     (FILE 'HOME' ENTERED AT 18:07:55 ON 14 AUG 2003)

     FILE 'REGISTRY' ENTERED AT 18:08:05 ON 14 AUG 2003
L1             0 S XXXXXXCGGXXXXGXXXCXXXXXXCXXXXXNXXYXQCXQ/SQSP
L2             0 S XXXXXXCGGXXXXGXXXCXXCXXXXNXXYXQCXQ/SQSP
L3             0 S XXXXXXCGGXXXXGXXXCXXCXXXXNKXYXQCXQ/SQSP
L4             0 S XXXXXXCGGKXXXGXXXCXXCXXXXXXXYXQCXQ/SQSP
L5             0 S XXXXXXCGGXXXXGXXXCXXCXXXXXXXYXQCXQ/SQSP

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 18:19:55 ON
     14 AUG 2003
               SEA ENDOGLUCANASE
              ---------
                1   FILE ADISCTI
              535   FILE AGRICOLA
               15   FILE ANABSTR
               26   FILE AQUASCI
              341   FILE BIOBUSINESS
               13   FILE BIOCOMMERCE
             1831   FILE BIOSIS
              868   FILE BIOTECHABS
              868   FILE BIOTECHDS
              857   FILE BIOTECHNO
              680   FILE CABA
               15   FILE CANCERLIT
             2884   FILE CAPLUS
              442   FILE CEABA-VTB
                7   FILE CIN
               32   FILE CONFSCI
                2   FILE CROPB
               16   FILE CROPU
             1780   FILE DGENE
                1   FILE DRUGU
                4   FILE EMBAL
              843   FILE EMBASE
              632   FILE ESBIOBASE
               34   FILE FEDRIP
                1   FILE FOREGE
               80   FILE FROSTI
              521   FILE FSTA
             1068   FILE GENBANK
                2   FILE HEALSAFE
              197   FILE IFIPAT
              115   FILE JICST-EPLUS
                4   FILE KOSMET
              998   FILE LIFESCI
              890   FILE MEDLINE
               40   FILE NTIS
                7   FILE OCEAN
              851   FILE PASCAL
                1   FILE PHIN
               15   FILE PROMT
                1   FILE RDISCLOSURE
             1695   FILE SCISEARCH
              272   FILE TOXCENTER
              723   FILE USPATFULL
               26   FILE USPAT2
               19   FILE VETU
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            173   FILE WPIDS
            173   FILE WPINDEX
L6             QUE ENDOGLUCANASE
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     FILE 'CAPLUS, BIOSIS, SCISEARCH, LIFESCI, MEDLINE, BIOTECHDS, BIOTECHNO,
     PASCAL, EMBASE, USPATFULL' ENTERED AT 18:21:14 ON 14 AUG 2003
L7          110 S L6 AND (FAMILY 45)
L8           20 S L7 AND (RHIZOPUS OR MUCOR OR PHYCOMYCES)
L9            7 DUP REM L8 (13 DUPLICATES REMOVED)
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=> d l9 ibib ab 1-7

L9 ANSWER 1 OF 7 USPATFULL on STN
ACCESSION NUMBER: 2003:148888 USPATFULL
TITLE: Transformation system in the field of filamentous fungal hosts
INVENTOR(S): Emalfrab, Mark Aaron, Jupiter, FL, United States
Burlingame, Richard Paul, Manitowoc, WI, United States
Olson, Philip Terry, Manitowoc, WI, United States
Sinitsyn, Arkady Panteleimonovich, Moscow, RUSSIAN FEDERATION
Parriche, Martine, Toulouse, FRANCE
Bousson, Jean Christophe, Quint-Fonsegrives, FRANCE
Pynnonen, Christine Marie, Manitowoc, WI, United States
Punt, Peter Jan, Houten, NETHERLANDS
Van Zeijl, Cornelia Marie Johanna, Vieuten-De Meern, NETHERLANDS
PATENT ASSIGNEE(S): Dyadic International, Inc., Jupiter, FL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6573086	B1	20030603
APPLICATION INFO.:	US 2000-548938		20000413 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 1999-NL618, filed on 6 Oct 1999 Continuation-in-part of Ser. No. WO 1998-EP6496, filed on 6 Oct 1998
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Ketter, James
LEGAL REPRESENTATIVE: Morgan & Finnegan, LLP
NUMBER OF CLAIMS: 25
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 69 Drawing Figure(s); 36 Drawing Page(s)
LINE COUNT: 3710
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel transformation system in the field of filamentous fungal hosts for expressing and secreting heterologous proteins or polypeptides is described. The invention also covers a process for producing large amounts of polypeptide or protein in an economical manner. The system comprises a transformed or transfected fungal strain of the genus Chrysosporium, more particularly of Chrysosporium lucknowense and mutants or derivatives thereof. It also covers transformants containing Chrysosporium coding sequences, as well expression-regulating sequences of Chrysosporium genes. Also provided are novel fungal enzymes and their encoding sequences and expression-regulating sequences.

L9 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2003:160139 CAPLUS
DOCUMENT NUMBER: 138:315587
TITLE: Molecular cloning of endo-.beta.-D-1,4-glucanase genes, rce1, rce2, and rce3, from **Rhizopus** oryzae
AUTHOR(S): Moriya, Tatsuki; Murashima, Koichiro; Nakane, Akitaka; Yanai, Koji; Sumida, Naomi; Koga, Jinichiro; Murakami, Takeshi; Kono, Toshiaki
CORPORATE SOURCE: Microbiological Resources and Technology Laboratories, Meiji Seika Kaisha, Ltd., Saitama, 350-0289, Japan
SOURCE: Journal of Bacteriology (2003), 185(5), 1749-1756
CODEN: JOBAAY; ISSN: 0021-9193
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Three **endoglucanase** genes, designated the rce1, rce2, and rce3

genes, were isolated from **Rhizopus** oryzae as the first cellulase genes from the subdivision Zygomycota. All the amino acid sequences deduced from the rce1, rce2, and rce3 genes consisted of three distinct domains: cellulose binding domains, linker domains, and catalytic domains belonging to glycosyl hydrolase **family 45**. The rce3 gene had two tandem repeated sequences of cellulose binding domains, while rce1 and rce2 had only one. Rce1, rce2, and rce3 had various lengths of linker sequences.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:408813 CAPLUS
DOCUMENT NUMBER: 137:1504
TITLE: Genetic engineering of Zygomycetes **endoglucanases** to remove cellulose-binding domain for increase the enzyme catalytic activity
INVENTOR(S): Nakane, Akitaka; Baba, Yuko; Koga, Jinichiro; Kubota, Hidetoshi
PATENT ASSIGNEE(S): Meiji Seika Kaisha, Ltd., Japan
SOURCE: PCT Int. Appl., 109 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002042474	A1	20020530	WO 2001-JP10188	20011121
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002024068	A5	20020603	AU 2002-24068	20011121

PRIORITY APPLN. INFO.: JP 2000-354296 A 20001121
WO 2001-JP10188 W 20011121

AB This invention provides process of removing cellulose-binding domain (CBD) from Zygomycetes **endoglucanases** for increase the enzyme catalytic activity. DNA and protein sequences of 6 Zygomycetes strains were disclosed. Thus, the effects of the **endoglucanase** can be enhanced in processing fibers (for example, reducing fluffing of cellulose-contg. fibers, improving texture and appearance, lightening fiber colors, locally changing fiber colors, softening), deinking waste papers, and improving freeness of paper pulps.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 7 USPATFULL on STN

ACCESSION NUMBER: 2002:284975 USPATFULL
TITLE: Neutral deinking with a deinking composition comprising a lipase and a fatty acid ester
INVENTOR(S): Franks, Neal, Raleigh, NC, UNITED STATES
Page, Kelly W., Bailey, NC, UNITED STATES
PATENT ASSIGNEE(S): Novozymes North America, Inc., Franklinton, NC (U.S. corporation)

NUMBER	KIND	DATE

PATENT INFORMATION: US 2002157798 A1 20021031
APPLICATION INFO.: US 2002-50489 A1 20020116 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-261784P	20010116 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: NOVOZYMES NORTH AMERICA, INC., 500 FIFTH AVENUE, SUITE 1600, NEW YORK, NY, 10110
NUMBER OF CLAIMS: 27
EXEMPLARY CLAIM: 1
LINE COUNT: 674
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to methods for deinking wastepaper by pulping wastepaper at a pH between 4 and 8.5 in the presence of deinking agents comprising a lipase and a fatty acid ester and removing the thereby dislodged ink particles.

L9 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2002:171289 CAPLUS
DOCUMENT NUMBER: 136:321124
TITLE: Purification and characterization of new endo-1,4-.beta.-D-glucanases from **Rhizopus** oryzae
AUTHOR(S): Murashima, Koichiro; Nishimura, Tomoko; Nakamura, Yuko; Koga, Jinichiro; Moriya, Tastuki; Sumida, Naomi; Yaguchi, Takashi; Kono, Toshiaki
CORPORATE SOURCE: Meiji Seika Kaisha, Ltd., Bio Science Laboratories, Saitama, Japan
SOURCE: Enzyme and Microbial Technology (2002), 30(3), 319-326
CODEN: EMTED2; ISSN: 0141-0229
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB New extracellular **endoglucanases**, designated RCE1 and RCE2, produced by **Rhizopus** oryzae isolated from the soil, were purified to apparent homogeneity from the culture supernatant. The mol. mass of RCE1 and that of RCE2 were found to be 41 kDa and 61 kDa, resp. The N-terminal amino acid sequences of RCE1 and RCE2 showed high homol. with those of the family I cellulose-binding domains. Internal amino acid sequences of RCE1 and RCE2 showed homol. with that of the catalytic domain of EGV from Humicola insolens belonging to **family 45 endoglucanase**. The cellooligosaccharide hydrolysis patterns of RCE1 and RCE2 were similar to that of EGV from H. insolens. These results indicate that RCE1 and RCE2 are **family 45 endoglucanases** having a cellulose binding domain at their N-terminus. RCE1 and RCE2 hydrolyzed CM-cellulose (CMC), insol. cellooligosaccharide (G33), cellohexaose, and cellopentaose, but not Avicel, xylan, galactan, arabinan, mannan, or laminarin. The CMCase activity of both enzymes was inhibited by Cu2+, Zn2+, Co2+, and Pb2+. The optimum pH for the CMCase activity of both enzymes was found to be between pH value 5.0 and 6.0, and the optimum temp. was 55.degree., the lowest among the **family 45 endoglucanases**. These results indicate that RCE1 and RCE2 represent a new type of **endoglucanases** having the lowest optimum temp. among the **family 45 endoglucanases**.
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 7 USPATFULL on STN
ACCESSION NUMBER: 2000:9740 USPATFULL
TITLE: Process and composition for desizing cellulosic fabric with an enzyme hybrid

INVENTOR(S): von der Osten, Claus, Lyngby, Denmark
Bjornvad, Mads E., Frederiksberg, Denmark
Vind, Jesper, Lyngby, Denmark
Rasmussen, Michael Dolberg, Vallensbaek, Denmark

PATENT ASSIGNEE(S): Novo Nordisk A/S, Bagsv.ae butted.rd, Denmark (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6017751		20000125
APPLICATION INFO.:	US 1997-812829		19970306 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 1997-DK41, filed on 29 Jan 1997		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1996-93	19960129

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Naff, David M.
LEGAL REPRESENTATIVE: Zelson, Esq., Steve T., Green, Esq., Reza
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1
LINE COUNT: 2231
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Cellulose-containing fabric is desized by treating with an enzyme hybrid having a catalytically active amino acid sequence of an enzyme such as a lipase or an amylase linked to an amino acid sequence containing a cellulose-binding domain. The enzyme amino acid sequence may be of an .alpha.-amylase obtainable from a species of Bacillus such as Bacillus licheniformis, or of a lipase obtainable from a species of Humicola, Candida, Pseudomonas or Bacillus. The cellulose-binding domain may be from a cellulase, a xylanase, a mannanase, an arabinofuranosidase, an acetylesterase or a chitinase. The enzyme hybrid is obtained from a transformed host cell containing an expression cassette having a DNA sequence encoding the enzyme hybrid. A desizing composition is formed containing the enzyme hybrid and a wetting agent.

L9 ANSWER 7 OF 7 USPATFULL on STN
ACCESSION NUMBER: 2000:7284 USPATFULL
TITLE: Process for removal or bleaching of soiling or stains from cellulosic fabric

INVENTOR(S): von der Osten, Claus, Lyngby, Denmark
Cherry, Joel R., Davis, CA, United States
Bjornvad, Mads E., Frederiksberg, Denmark
Vind, Jesper, Lyngby, Denmark
Rasmussen, Michael Dolberg, Vallensbaek, Denmark

PATENT ASSIGNEE(S): Novo Nordisk A/S, Bagsvaerd, Denmark (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6015783		20000118
APPLICATION INFO.:	US 1997-814052		19970306 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 1997-DK42, filed on 29 Jan 1997		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1996-94	19960129

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Fries, Kery
LEGAL REPRESENTATIVE: Zelson, Esq., Steve T., Green, Esq., Reza

NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
LINE COUNT: 3635
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a process for removal or bleaching of soiling or stains present on cellulosic fabric, wherein the fabric is contacted in aqueous medium with a modified enzyme (enzyme hybrid) which comprises a catalytically active amino acid sequence of a non-cellulolytic enzyme linked to an amino acid sequence comprising a cellulose-binding domain. The invention further relates to a detergent composition comprising an enzyme hybrid of the type in question and a surfactant, and to a process for washing soiled or stained cellulosic fabric, wherein the fabric is washed in an aqueous medium to which is added such a detergent composition.

1: Appl Microbiol Biotechnol. 1996 Dec;46(5-6):538-44. Related Articles, Links

Entrez PubMed

PubMed Services

Related Resources

Molecular cloning, purification and characterization of two endo-1,4-beta-glucanases from Aspergillus oryzae KBN616.

Kitamoto N, Go M, Shibayama T, Kimura T, Kito Y, Ohmiya K, Tsukagoshi N.

Food Research Institute, Aichi Prefectural Government, Nagoya, Japan.

Two endo-1,4-beta-glucanase genes, designated celA and celB, from a shoyu koji mold Aspergillus oryzae KBN616, were cloned and characterized. The celA gene comprised 877 bp with two introns. The CelA protein consisted of 239 amino acids and was assigned to the cellulase family H. The celB gene comprised 1248 bp with no introns. The CelB protein consisted of 416 amino acids and was assigned to the cellulase family C. Both genes were overexpressed under the promoter of the A. oryzae taka-amylase A gene for purification and enzymatic characterization of CelA and CelB. CelA had a molecular mass of 31 kDa, a pH optimum of 5.0 and temperature optimum of 55 degrees C, whereas CelB had a molecular mass of 53 kDa, a pH optimum of 4.0 and temperature optimum of 45 degrees C.

PMID: 9008887 [PubMed - indexed for MEDLINE]

Display Abstract Show: 20 Sort Send to Text

1: Mol Microbiol. 1994 Jul;13(2):219-28.

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A novel, small endoglucanase gene, egl5, from Trichoderma reesei isolated by expression in yeast.

Saloheimo A, Henrissat B, Hoffren AM, Teleman O, Penttila M.

VTT Biotechnology and Food Research, Espoo, Finland.

A method is presented for the isolation of genes encoding hydrolytic enzymes without any knowledge of the corresponding proteins. cDNA made from the organism of interest is cloned into a yeast vector to construct an expression library in the yeast Saccharomyces cerevisiae. Colonies producing hydrolytic enzymes are screened by activity plate assays. In this work, we constructed a yeast expression library from the filamentous fungus Trichoderma reesei and isolated a new beta-1,4-endoglucanase gene on plates containing beta-glucan. This gene, egl5, codes for a previously unknown small protein of 242 amino acids. Despite its small size, the protein contains two conservative domains found in Trichoderma cellulases, namely the cellulose-binding domain (CBD) and the linker region that connects the CBD to the catalytic core domain. Molecular modelling of the EGV CBD revealed some interesting structural differences compared to the CBD of the major cellulase CBHI from T. reesei. The catalytic core of EGV is unusually small for a cellulase and represents a new family of cellulases (Family K) and of glycosyl hydrolases (Family 45) together with the endoglucanase B of Pseudomonas fluorescens and the endoglucanase V of Humicola insolens on the basis of hydrophobic cluster analysis.

PMID: 7984103 [PubMed - indexed for MEDLINE]

1: Prog Nucleic Acid Res Mol Biol. 1998;61:211-41. Related Articles, Links

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Structure and function analysis of Pseudomonas plant cell wall hydrolases.

Hazlewood GP, Gilbert HJ.

Laboratory of Molecular Enzymology, Babraham Institute, Cambridge, United Kingdom.

Hydrolysis of the major structural polysaccharides of plant cell walls by the aerobic soil bacterium Pseudomonas fluorescens subsp. cellulosa is attributable to the production of multiple extracellular cellulase and hemicellulase enzymes, which are the products of distinct genes belonging to multigene families. Cloning and sequencing of individual genes, coupled with gene sectioning and functional analysis of the encoded proteins have provided a detailed picture of structure/function relationships and have established the cellulase-hemicellulase system of P. fluorescens subsp. cellulosa as a model for the plant cell wall degrading enzyme systems of aerobic cellulolytic bacteria. Cellulose- and xylan-degrading enzymes produced by the pseudomonad are typically modular in structure and contain catalytic and noncatalytic domains joined together by serine-rich linker sequences. The cellulases include a cellodextrinase; a beta-glucan glucohydrolase and multiple endoglucanases, containing catalytic domains belonging to glycosyl hydrolase families 5, 9, and 45; and cellulose-binding domains of families II and X, both of which are present in each enzyme. Endo-acting xylanases, with catalytic domains belonging to families 10 and 11, and accessory xylan-degrading enzymes produced by P. fluorescens subsp. cellulosa contain cellulose-binding domains of families II, X, and XI, which act by promoting close contact between the catalytic domain of the enzyme and its target substrate. A domain homologous with NodB from rhizobia, present in one xylanase, functions as a deacetylase. Mananase, arabinanase, and galactanase produced by the pseudomonad are single domain enzymes. Crystallographic studies, coupled with detailed kinetic analysis of mutant forms of the enzyme in which key residues have been altered by site-directed mutagenesis, have shown that xylanase A (family 10) has 8-fold alpha/beta barrel architecture, an extended substrate-binding cleft containing at least six xylose-binding pockets and a calcium-binding site that protects the enzyme from thermal inactivation, thermal unfolding, and attack by proteinases. Kinetic studies of mutant and wild-type forms of a mannanase and a galactanase from P. fluorescens subsp. cellulosa have enabled the catalytic mechanisms and key catalytic residues of

these enzymes to be identified.

Publication Types:
- Review
- Review, Academic

PMID: 9752722 [PubMed - indexed for MEDLINE]

1: J Gen Microbiol. 1974 Mar;81(1):1-6. Related Articles, Links

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Synthesis of cellulase by mucor pusillus and mucor miehei.

Somkuti GA.

PMID: 4822120 [PubMed - indexed for MEDLINE]

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#1	Search **Kaneko M** Field: **Author,** Limits: **Publication Date from 1999 to 1999**	15:55:48	59

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L2: Entry 14 of 15 File: EPAB Apr 14, 1994

DOCUMENT-IDENTIFIER: WO 9407998 A1
TITLE: CELLULASE VARIANTS

Abstract Text (1):
CHG DATE=19990617 STATUS=O>A cellulase variant of a parent cellulase, e.g. a cellulase classified in family 45 such as a Humicola insolens 43 kD endoglucanase, comprising a cellulose binding domain (CBD), a catalytically active domain (CAD) and a region linking the cellulose binding domain and catalytically active domain (the linking region), wherein one more amino acid residues of the CBD, CAD or linking region is deleted or substituted by one or more amino acid residues and/or one or more amino acids are added to the linking region and/or another CBD is added at the opposite end of the catalytically active domain, has improved properties as regards e.g. alkaline activity, compatibility with detergent composition ingredients, particulate soil removal, colour clarification, defuzzing, depilling, harshness reduction, and sensitivity to anionic surfactants and peroxidase bleaching systems and is useful e.g. in detergent compositions, for textile treatment, in paper pulp processing, for animal feed and for stone washing of jeans.

L2: Entry 11 of 15 File: USPT Sep 28, 1999

DOCUMENT-IDENTIFIER: US 5958083 A
TITLE: Prevention of back-staining in stone washing

Brief Summary Text (65):
A Family 45 cellulase for use in the invention may be derived from a strain of Humicola, preferably H. insolens. An example is an endoglucanase denoted EG V derived from H. insolens strain DSM 1800 having a molecular weight of .about.43 kD. The cellulase and its amino acid sequence are described in WO 91/17243 (Novo Nordisk). It has a specific activity of 430 ECU/mg.

CLAIMS:

10. The method of claim 9 wherein the Family 45 cellulase is endoglucanase EG V derived from H. insolens strain DSM 1800, or is a cellulase having at least 60% homology with said EG V.

15. The method of claim 14 wherein the Family 45 cellulase is endoglucanase EG V derived from H. insolens strain DSM 1800 or is a cellulase having at least 60% homology with said EG V.

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L2: Entry 6 of 15 File: USPT Aug 7, 2001

DOCUMENT-IDENTIFIER: US 6270968 B1
TITLE: Method of providing a hybrid polypeptide exhibiting an activity of interest

Detailed Description Text (218):
Novel hybrid DNA sequences with endoglucanase activity were provided by first identifying two conserved regions common for the following family 45 cellulases (see WO 96/29397): Humicola insolens EGV (disclosed in WO 91/17243), Fusarium oxysporum EGV (Sheppard et al., Gene (1994), Vol. 15, pp.163-167), Thielavia terrestris, Myceliophthora thermophila, and Acremonium sp (disclosed in WO 96/29397).